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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,676	11/12/2003	Ofir Zohar	ASSIA 20.741	8317

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EXAMINER

MCFADDEN, MICHAEL B

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/706,676	Applicant(s) ZOHAR ET AL.	
	Examiner Michael B. McFadden	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

1. Claims 1-20 are pending in the Application.

Response to Amendment

2. Applicant's arguments filed on 29 June 2006 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tawil (US Patent No. 6,421,723).
5. **Regarding Claims 1, 2, 3, 10, 11 and 12**, Tawil discloses a storage system, comprising: one or more data storage logical units (LUs) (**Figure 1, Elements 14, 16, 18, and 20**) comprising respective physical media, the one or more LUs being adapted to receive commands and responsive to the commands to store and recall data; and a plurality of ports, each port being adapted to maintain a respective LU command queue

(Figure 1, Element 26 and 22) for each of the LUs, such that upon receiving a command directed to one of the LUs, the port places the received command in the respective LU command queue, converts the received command to one or more converted commands at least some of which are directed to the physical media of the one of the LUs, and conveys the at least some converted commands to the physical media in an order determined by the respective LU command queue. **(Column 4, Lines 20-25)**

6. **Regarding Claims 4 and 13**, Tawil discloses the storage system according to claim 1, wherein the command comprises a request according to a small computer system interface (SCSI) protocol, and wherein the storage system is operative according to the SCSI protocol. **(Column 1, Lines 24-28)**

7. **Regarding Claims 5 and 14**, Tawil discloses the storage system according to claim 1, wherein each of the ports comprises a respective central processing unit (CPU) which operates each of the ports substantially independently.

8. **The use of a CPU is inherent. It is disclosed that the queues (Figure 1, Elements 26 and 22) both receive and execute commands. (Column 4, Lines 20-25) Therefore the execution of commands must include a processing unit.**

9. **Regarding Claims 6 and 15**, Tawil discloses the storage system according to claim 1, wherein the command is comprised in one of one or more strings of commands, each command of each string being directed via one of the ports to a respective one of the LUs, and comprising a coupling which: receives the commands comprised in the one or more strings, sorts the commands according to the ports via

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which the commands are directed, and conveys the commands to the ports to which the commands are directed. **(Column 4, Lines 1-3)**

10. The coupling that is disclosed functions in the same manner as a hub.

Tawil discloses the use of a hub in the storage area network.

11. Regarding Claims 7, 8, 16 and 17, Tawil discloses the storage system according to claim 1, wherein the received command comprises a write command to store a data string from a host to the physical media, wherein the one or more converted commands comprise instructions to the host to convey the data string to the physical media via the port, and wherein the port is adapted to convey the instructions to the host and wherein the received command comprises a read command from a host to read a data string from the physical media, and wherein the one or more converted commands comprise instructions to convey the data string via the port to the host.

(Column 4, Lines 20-25)

12. Regarding Claims 9 and 18, Tawil discloses the storage system according to claim 1, wherein the physical media comprise the data, and wherein the port is adapted to track changes of location of the data within the physical media. **(Column 4, Lines 20-25) If the manipulated in data storage areas then it must also be keeping track of where the data is located.**

13. Regarding Claim 19, Tawil discloses wherein each port uses at least one table to convert logical data in the received command to data suitable for the respective physical media to which the command is directed. **In converting opcode instructions to the proper control line output a conversion table is used.**

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14. **Regarding Claim 20**, Tawil discloses wherein each port uses one or more functions to convert logical data in the received command to the data suitable for the respective physical media. **In order to convert the opcode instructions logic functions must be present in the circuitry.**

Response to Arguments

15. Applicant's arguments filed 29 June 2006 have been fully considered but they are not persuasive.

16. **Regarding Claim 1 and 10**, Applicant contends that Tawil fails to disclose converting commands **(However, Tawil must inherently convert the commands in some fashion. Commands stored in a command queue must be converted at the very least at the control line. The opcode will be converted into bits that will be used to perform the requested command.)** and conveying some converted commands to the physical media in an order determined by the respective LU command queue. **(As previously stated in the rejection, in Figure 1, Element 22 shows a command queue. To convey commands in a specific order is the function of a command queue.)**

17. **Regarding Claims 2-9 and 11-18**, Applicant contends that these claims are allowable due to their dependence on an allowable claim. **However, claims 1 and 10 are not allowable for the explained reasons above.**

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18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. McFadden whose telephone number is (571)272-8013. The examiner can normally be reached on Monday-Friday 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Manorama Padmanabhan can be reached on (571)272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBM
09/25/2006

Mano Padmanabhan
9/29/06

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER